

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/018,119	HAJEK ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Lisa Herring	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to 26 April 2002 and 03 January 2005.
2.  The allowed claim(s) is/are 11-17, which have been renumbered 1-7, respectively.
3.  The drawings filed on 24 December 2001 are accepted by the Examiner.
4.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a)  All    b)  Some\*    c)  None    of the:
    1.  Certified copies of the priority documents have been received.
    2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_\_.
    - (b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1.  Notice of References Cited (PTO-892)
2.  Notice of Draftperson's Patent Drawing Review (PTO-948)
3.  Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 03 January 2005
4.  Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5.  Notice of Informal Patent Application (PTO-152)
6.  Interview Summary (PTO-413),  
Paper No./Mail Date N/A.
7.  Examiner's Amendment/Comment
8.  Examiner's Statement of Reasons for Allowance
9.  Other \_\_\_\_\_.

### **EXAMINER'S AMENDMENT**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward Freedman, 26048, on February, 24, 2005.

#### **In the Claims:**

Claim 11 has been rewritten as follows:

A method of heat treatment of glass materials and natural materials specifically of volcanic origin selected from the group ~~comprising~~ consisting of basalt, granite, marble, andesite, and syenite,

the method including melting and refining said glass and natural materials to form objects, comprising

exposing the treated glass and natural materials to microwave radiation at a frequency range from 1 MHz to 10 GHz and at a temperature range from the ambient temperature to 1800 °C in a batch or continuous production process in a presence of an inert, microwave absorbing additive selected from the group ~~comprising~~ consisting of carbides, nitrides, or borides in an amount from 1 to 100 g per 1 kg of the glass materials or natural materials.

Claim 14 has been changed on line 8, please change "zirkonium" to --zirconium--.

Claim 16 has been rewritten as follows:

An apparatus for heat treatment of glass materials and natural materials, comprising substantially a microwave furnace comprising:  
an outer shell (8.2) provided with a cover (1) and an inner shell (8.1) and at least one microwave generator (1.1, 1.2, 1.3, 1.4) with double emission and a total output from 0.1 to 1 kW per 1 kg of the processed glass materials or natural materials arranged substantially in an intermediate space between the outer shell (8.2) and the inner shell (8.1); and  
said an insulating, ~~microwave permeable~~ material (3) having a heat resistance up to 1750 °C and being selected from the group consisting of aluminum oxide – corundum and silicon oxide – quartz.

Claim 17 has been rewritten as follows:

The apparatus of claim 16,  
wherein the tank (2) is provided with a fill-neck (7) and a side or bottom tapping point (13).

#### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

- a) In the method claims, the prior art of record does not disclose a heat treatment of glass and natural materials consisting of basalt, granite, marble, andesite, and

syenite including melting and refining materials to form objects comprising exposing the glass and natural materials to microwave radiation in the presence of a microwave absorbing additive selected from the group comprising carbides, nitrides, or borides in an amount from 1 to 100 g per 1 kg of the glass materials or natural materials

b) In the apparatus claims Igarashi (5,304,701), Hardwick et al. (4,490,287 and 4,4221,680), Hallier (4,004,122), Cauquil et al. (5,523,514), Peterson (3,748,421), Komatsu (5,319,172), and Councill (4,288,674) fail to disclose a microwave generators are arranged substantially in the intermediate space between the outer shell and the inner shell. All of the references disclose the microwave generator outside the outer shell.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Remarks***

Claim 16 the phrase "consisting of" replaces "comprising" in order to recite proper Markush format in the claim, please see MPEP 2173.05(h) I.

The phrase "microwave permeable" in the 7<sup>th</sup> line of claim 16 cannot be found in the original disclosure, therefore the examiner suggests removal of the phrase. If support for this can be found in the original disclosure, please point out by page and line number in the original disclosure where this can be found for reconsideration by the examiner.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa Herring whose telephone number is 571-272-1094. The examiner can normally be reached on Mon-Fri. 7am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

L. Herring  
Patent Examiner  
Art Unit 1731

  
STEVEN P. GRIFFIN  
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